

Section IX — Interpretations No. 24

IX-89-01, IX-89-02

Interpretation: IX-89-01

Subject: Section IX, QW-482

Date Issued: October 6, 1988

File: BC88-042

Question: In describing the joint backing on the WPS for a multiprocess single-welded groove weld procedure with no backing for the root pass, must the backing for each process after the root pass be individually addressed?

Reply: No.

Interpretation: IX-89-02

Subject: Section IX, QW-351 and QW-452

Date Issued: October 6, 1988

File: BC88-090

Question (1): A performance qualification groove weld test coupon has been successfully made by a welder on a $\frac{3}{4}$ in. thick test coupon using transverse bend tests in accordance with QW-452. The test weld was made with one process, utilizing filler metals of two different F-Numbers. Is the deposited weld metal thickness qualified, for each of the F-Number filler metals used in qualification, "max. to be welded"?

Reply (1): Yes.

Question (2): Is the deposited weld metal thickness qualified, for the welding process utilized in qualification, "max. to be welded"?

Reply (2): Yes.

Question (3): Is the deposited weld metal thickness for each of the additional F-Number filler metals qualified in accordance with QW-404.28, QW-404.11, QW-404.15, and QW-404.16 "max. to be welded"?

Reply (3): Yes.

IX-89-03, IX-89-04

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Interpretation: IX-89-03

Subject: Section IX, QW-100.1 and QW-200.1

Date Issued: October 6, 1988

File: BC88-166A

Question (1): Is it required that all of the essential and nonessential variables listed in QW-250 through QW-280 for each welding process be addressed in the WPS, even though some of these variables are not applicable?

Reply (1): Yes.

Question (2): When QW-410.9 is a variable for a process, may a qualified multipass welding procedure be used to make single pass repairs, even if the WPS does not specify a single pass technique?

Reply (2): No.

Question (3): Is it permissible to record the required essential variables of QW-352 through QW-357 for more than one process on a single WPQ record?

Reply (3): Yes.

Interpretation: IX-89-04

Subject: Section IX, QW-153.1

Date Issued: October 6, 1988

File: BC88-167

Question (1): Does QW-153.1(d) apply not only to the qualification of a WPS, but also to any subsequent tensile testing which may be required as a result of a customer's request?

Reply (1): No; QW-153.1 only applies to the qualification of a WPS.

Question (2): Are any yield strength elongations or reduction of area determinations from said tensile test relevant as far as QW-153.1 is concerned?

Reply (2): No.

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IX-89-05, IX-89-06

Interpretation: IX-89-05

Subject: Section IX, QW-424

Date Issued: October 6, 1988

File: BC88-168

Question (1): When qualification in accordance with Section IX is required by the construction code for welding of non-pressure retaining attachments to pressure parts, does QW-424 apply?

Reply (1): Yes.

Question (2): Can materials made in accordance with different standards and/or with different specifications but with the same nominal chemical composition and mechanical properties, be treated as the same unassigned metal?

Reply (2): Yes; see QW-424.1.

Interpretation: IX-89-06

Subject: Section IX, QW-452.1

Date Issued: October 6, 1988

File: BC88-169

Question: A production butt weld 120 mm thick is to be made. May two welders, each qualified to deposit a maximum thickness of 20 mm, alternatively deposit weld layers not exceeding their qualified thickness, resulting in a completed weld where each of the welders deposited a total of approximately 60 mm of filler material, thereby exceeding their maximum qualified thickness in the production weldment?

Reply: No; see QW-351.

IX-89-07

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Interpretation: IX-89-07**Subject:** Section IX, QW-403.6 and QW-451**Date Issued:** October 6, 1988**File:** BC88-171

Question (1): Does Table QW-451 apply to production welds and/or production weld coupons, or does it apply to welding procedure qualification only?

Reply (1): Table QW-451 applies to welding procedure qualification for production welding. The requirements for production weld coupons are specified by the construction code.

Question (2): Does QW-403.6 refer to production welds and/or production weld coupons, or to welding procedure qualification only?

Reply (2): QW-403.6 applies to welding procedure qualification for production welding. The requirements for production weld coupons are specified by the construction code.

Interpretation: IX-89-08

Subject: Section II, Part C, Chemistry Deviations

Date Issued: October 6, 1988

File: BC88-172

Question (1): If the composition of a welding rod or electrode deviates from the limits given in the appropriate SFA specification, but the mechanical properties and all other requirements of the specification have been met, can the manufacturer state that his product is classified according to AWS?

Reply (1): No.

Question (2): Given the situation in Question (1), can the manufacturer state that his product complies with the requirements of Section II, Part C, except Si and/or Mn?

Reply (2): No.

Question (3): According to SFA 5.4, para. 13.2, chemical analysis must be tested from a weld pad sample. As the results obtained are not satisfactory, can the manufacturer take the analysis from the all-weld-metal tension test specimen?

Reply (3): No.

Question (4): If the results of the test in Question (3) are on the acceptable limits, can the manufacturer state that his product complies with the requirements of Section II, Part C?

Reply (4): No.

Interpretation: IX-89-09

Subject: Section IX, QW-452.3

Date Issued: December 14, 1988

File: BC88-397

Question: If a welder qualifies with a process on NPS 2 in the 6G position, is he then qualified per QW-452.3 to weld larger diameter pipe with that process, assuming that all other essential variables are unchanged?

Reply: Yes.

IX-89-10, IX-89-11

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Interpretation: IX-89-10

Subject: Section IX, QW-300.2

Date Issued: December 14, 1988

File: BC88-398

Question (1): May an *organization*, as defined in QW-300.2, incorporate a procedure in its Quality Control System to receive the data supplied by another organization beyond its operational control, for the purpose of providing effective operational control of performance qualifications as described in QW-300.2?

Reply (1): No.

Question (2): May two or more companies within the same organization provide the data described in Question (1) to each other for the purpose of providing effective operational control of performance qualifications as described in QW-300.2?

Reply (2): Yes.

Interpretation: IX-89-11

Subject: Section IX, QW-250

Date Issued: December 14, 1988

File: BC88-399

Question: If qualified SMAW procedures exist for welding P-No.1 Gr-No.2, 0.5 in. pipe with a 0.188 in. wall in the 6G position using an F-No. 4 electrode, and P-No. 1 Gr-No.2, 4.0 in. pipe with a 0.436 in. wall in the 6G position using an F-No. 4 electrode, will a separate welding procedure be required to weld 2 in. pipe with a 0.436 in. wall?

Reply: No.

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IX-89-12, IX-89-13, IX-89-14

Interpretation: IX-89-12

Subject: Section IX, QW-202.3

Date Issued: December 14, 1988

File: BC88-401

Question: Can a WPS qualified on groove welds be used for weld repairs to corrosion-resistant weld metal overlay per QW-202.3?

Reply: No.

Interpretation: IX-89-13

Subject: Section II, Part C, SFA-5.1

Date Issued: December 14, 1988

File: BC88-402

Question: When welding on ASME Code items operational at temperatures less than -20° F, may the manufacturer use E-7018 electrodes in place of E-7018-1 electrodes in the flat position, even though the procedure qualification was done with E-7018-1 electrodes?

Reply: No.

Interpretation: IX-89-14

Subject: Section IX, QW-403.1 and QW-422

Date Issued: December 14, 1988

File: BC88-403

Question: Does the use of SA-420, S41500, require requalification if ASTM A 487, Class CA6NM, was originally used during procedure qualification?

Reply: Yes.

IX-89-15, IX-89-16

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Interpretation: IX-89-15

Subject: Section IX, QW-423

Date Issued: December 14, 1988

File: BC88-404

Question: If a welder is qualified for the welding of P-No. 1 material, is he also qualified for P-No. 1 through P-No. 11 and P-No. 4X material?

Reply: Yes.

Interpretation: IX-89-16

Subject: Section IX, QW-408

Date Issued: December 14, 1988

File: BC88-405

Question: Is the terminology *welding grade* acceptable to use on the WPS and PQR for shielding gas percentage when argon is used as a single shielding gas for the GTAW process?

Reply: Yes.

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ASME Boiler and Pressure Vessel Code SECTION IX

INTERPRETATIONS Volume 25

The Interpretations to the Code will be issued twice a year up to the publication of the 1992 Edition of the Code: each July (designated 7/89, 7/90, and 7/91) and with each Addenda (designated A89, A90, and A91). The Interpretations for each individual Section are published separately and are part of the update service to that Section; Interpretations of Section III, Divisions 1 and 2, are part of the update service to Section III, Subsection NCA. Interpretations are not part of the Code or the Addenda.

Interpretations Volumes 18 through 23 were included with the update service to the 1986 Edition of the Code; Volume 24 is the first Interpretations volume to be included with the update service to the 1989 Edition.

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INTERPRETATIONS

NO. 25 — SECTION IX

Replies to Technical Inquiries
January 1, 1989, through June 30, 1989

FOREWORD

General Information

This publication includes all written interpretations issued between the indicated dates by the ASME Staff on behalf of the ASME Boiler and Pressure Vessel Committee in response to inquiries concerning interpretations of the ASME Boiler and Pressure Vessel Code. A contents is also included which lists subjects specific to the interpretations covered in the individual volume. **These interpretations are not a part of the Addenda or the Code.**

The interpretations are taken verbatim from the original letters, except for a few typographical and editorial corrections made for the purpose of improved clarity. In some instances, a review of the interpretation revealed a need for corrections of a technical nature. In these cases, a revised interpretation is presented bearing the original Interpretation Number with the suffix R and the original file number with an asterisk. Following these revised interpretations, new interpretations and revisions to them issued during the indicated dates are assigned Interpretation Numbers in chronological order. Interpretations applying to more than one Code Section appear with the interpretations for each affected Section.

ASME procedures provide for reconsideration of these interpretations when or if additional information is available which the inquirer believes might affect the interpretation. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME committee or subcommittee. As stated in the Statement of Policy in the Code documents, ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

An interpretation applies either to the Edition and Addenda in effect on the date of issuance of the interpretation or the Edition and Addenda stated in the interpretation. Subsequent revisions to the Code may supersede the interpretation.

For detailed instructions on preparation of technical inquiries to the ASME Boiler and Pressure Vessel Committee, refer to Appendix B.

Subject and Numerical Indexes

Subject and numerical indexes have been prepared to assist the user in locating interpretations by subject matter or by location in the Code. They cover interpretations issued from Volume 12 up to and including the present volume, and will be updated with each volume.

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Section IX — Interpretations No. 25

IX-89-17, IX-89-18

Interpretation: IX-89-17

Subject: Section IX, QW-200

Date Issued: February 27, 1989

File: BC88-473

Question: Must a qualified SMAW WPS written for a groove weld on pipe be revised and requalified to support a SMAW groove weld on plate?

Reply: Yes, however, procedure requalification is not required.

Interpretation: IX-89-18

Subject: Section IX, QW-451.1

Date Issued: February 27, 1989

File: BC88-474

Question: A $\frac{3}{8}$ in. thick SA-240 plate is used as base metal in coupon preparation. Actual base metal coupon thickness is 0.413 in., which complies with thickness tolerances outlined in SA-480. Is the range of base metal thickness qualified $\frac{1}{16}$ in. to $\frac{3}{4}$ in. inclusive?

Reply: Yes, provided $\frac{3}{8}$ in. is recorded on the PQR.

IX-89-19, IX-89-20

Section IX — Interpretations No. 25

Interpretation: IX-89-19

Subject: Section IX, QW-409.8

Date Issued: February 27, 1989

File: BC88-476

Question (1): For the SMAW and GTAW processes, is it necessary to specify the amperage range, ie., non-essential variable, on the WPS when the voltage range is identified?

Reply (1): Yes.

Question (2): For the GMAW process, is it necessary to specify either amperage or voltage, or both, on the WPS when the WPS identifies a wire feed rate range?

Reply (2): Voltage must be specified, amperage need not be specified on the WPS.

Interpretation: IX-89-20

Subject: Section IX, QW-403.16, QW-404.30, and QW-405.1

Date Issued: February 27, 1989

File: BC88-478

Question (1): Given a qualified GTAW groove weld procedure whose T range is $1/16$ in. to $1/2$ in. with $1/2$ in. t , will the following welder qualification data support all position welding of plate and pipe above $1/4$ in. NPS with a maximum t of 0.432 in. and a maximum T of $1/2$ in.? Coupon; $1/4$ in. pipe, schedule 40, 0.088 in. wall; 3 in. pipe, schedule 40, 0.216 in. wall; position 2G; position 5G. Both coupons were successfully bend tested in accordance with QW-452.1.

Reply (1): No.

Question (2): A welder qualifies on a 3 in. schedule 40 pipe coupon, 0.216 in. wall groove weld, using the GTAW process. According to QW-452.1, he is qualified for 2×0.216 in., or 0.432 in. May the decimal dimension be rounded up to the nearest fractional value, $7/16$ in., and the fraction value used for the welder qualification t limit?

Reply (2): No.

Section IX — Interpretations No. 25

IX-89-21, IX-89-22

Interpretation: IX-89-21

Subject: Section IX, QW-452.1

Date Issued: June 7, 1989

File: BC89-031

Question (1): A welder is qualified by radiographic examination as permitted in QW-304, for the following processes/test coupon thicknesses: SMAW — Test Coupon 15 mm nominal wall thickness; SAW — Test Coupon 18 mm nominal wall thickness; GTAW — Test Coupon 10 mm nominal wall thickness. Is the welder qualified up to the following thicknesses of deposited weld metal, as determined from table QW-452.1: SMAW — 30 mm; SAW — 36 mm, GTAW — 20 mm?

Reply (1): Yes.

Question (2): Does QW-452.1, third column, address only the limitations of deposited weld metal thicknesses and not the maximum work piece thickness qualified?

Reply (2): Yes.

Question (3): May a workpiece 86 mm (nominal) thickness be welded by the above welder, when he deposits the maximum thickness weld metal with each process for which he is qualified?

Reply (3): Yes.

Question (4): On form QW-484 shall the thickness to be written as the deposited weld metal thickness be recorded separately for each process used during the welder qualification test?

Reply (4): Yes.

Interpretation: IX-89-22

Subject: Section IX, QW-283

Date Issued: June 7, 1989

File: BC89-094

Question: Does QW-283 apply when welding carbon or low alloy steels such as P-No.1 through P-No.5 materials to another carbon or low alloy steel, when one or both of the base metals is "buttered" with one or more layers of an austenitic stainless steel or nickel based alloy?

Reply: Yes.

IX-89-23, IX-89-24

Section IX — Interpretations No. 25

Interpretation: IX-89-23

Subject: Section IX, QW-403.5

Date Issued: June 7, 1989

File: BC89-096

Question (1): A welding procedure qualification is made using the following combination of base metals P-No.1 Gr-No.1 to P-No.1 Gr-No.2. The client specification requires impact testing only for P-No.1 Gr-No.1 materials (in the weld metal and heat affected zone). For procedure qualification purposes, is the impact testing only required in the weld metal and in the heat affected zone on the P-No.1 Gr-No.1 base metal side?

Reply (1): Impact tests are conducted when required by other ASME Sections.

Question (2): Does the procedure qualification test coupon qualify the welding of P-No.1 Gr-No.1 base metal to any other P-No.1 base metal not to be impact tested using the variables qualified?

Reply (2): Yes.

Interpretation: IX-89-24

Subject: Section IX, QW-404.30, and QW-405.1

Date Issued: June 7, 1989

File: BC89-097

Question: A welder is currently qualified to deposit $1/2$ in. in all positions. Will an additional test on a $3/4$ in. thick coupon welded in the 1G test position qualify him to deposit the "max. to be welded" (per QW-452.1) in all positions?

Reply: No.

Section IX — Interpretations No. 25

IX-89-25, IX-89-26

Interpretation: IX-89-25**Subject:** Section IX, QW-151.1 and QW-462.1(a)**Date Issued:** June 7, 1989**File:** BC89-099

Question (1): Is there a minimum machine thickness requirement, in relation to the original test coupon thickness, for reduced section tensile specimens to conform to the dimensions of QW-462.1(a)?

Reply (1): No.

Question (2): In paragraph QW-462 is there a dimension y in relation to dimensions x or T which is unacceptable?

Reply (2): In paragraph QW-462 x , y , and T are not dimensional, they are used to designate test coupon locations.

Interpretation: IX-89-26**Subject:** Section IX, 1987 Addenda, QW-403.5, and QW-424**Date Issued:** June 7, 1989**File:** BC89-103

Question (1): A PQR has been qualified using a combination of SMAW and SAW on P-No.5 Gr-No.1 and P-No.4 Gr-No.1 materials. Will a WPS be supported utilizing this PQR for P-No.5 Gr-No.1 to P-No.4 Gr-No.1, P-No.3, or P-No.1 materials if supplementary essential variables are required?

Reply (1): No, only P-No.5 Gr-No.1 to P-No.4 Gr-No.1 is qualified.

Question (2): Will a WPS be supported utilizing the above PQR for P-No.5 Gr-No.1 to P-No.5 Gr-No.1 or P-No.4, P-No.3, or P-No.1, if supplementary essential variables are not required?

Reply (2): The following combinations are qualified: P-No.5 to P-No.4, P-No.4 to P-No. 4, P-No.4 to P-No. 3, and P-No. 4 to P-No.1.

SECTION IX

<u>Subject</u>	<u>Interpretation</u>	<u>File No.</u>
QW-216	IX-89-29	BC89-176
QW-216.1	IX-89-32	BC89-287
QW-218, Applied Linings	IX-89-31	BC89-178
QW-301.4	IX-89-30	BC89-177
QW-322(a)	IX-89-27	BC89-100
QW-401.15 and QW-402.4	IX-89-28	BC89-174
Welder Qualifications	IX-89-33	BC89-175

Section IX—Interpretations No. 26

IX-89-27, IX-89-28

Interpretation: IX-89-27**Subject:** Section IX, QW-322(a)**Date Issued:** October 24, 1989**File:** BC89-100

Question: When performance qualifications are extended for a particular welding process to six months by welding with another process, is the welder or welding operator required to be qualified in the other process that he is welding with?

Reply: Yes.

Interpretation: IX-89-28**Subject:** Section IX, QW-401.15 and QW-402.4**Date Issued:** October 24, 1989**File:** BC89-174

Question (1): A welder has been qualified with the SMAW process using F-No. 3 electrodes for the root pass, and F-No. 4 electrodes for the fill and wash process. Is the F-No. 3 weld deposit for this qualification considered backing for the F-No. 4 electrode weld deposit?

Reply (1): Yes.

Question (2): Is the welder qualified to make the complete weld with the F-No.4 electrode?

Reply (2): Yes, provided backing is used.

IX-89-29, IX-89-30, IX-89-31

Section IX—Interpretations No. 26

Interpretation: IX-89-29

Subject: Section IX, QW-216

Date Issued: October 24, 1989

File: BC89-176

Question (1): To qualify a WPS in accordance with QW-216, is it a requirement of Section IX that the electrodes to be used conform to F-No. 71 or F-No. 72 of QW-432.7?

Reply (1): No.

Question (2): Is it acceptable to qualify a WPS in accordance with QW-216 using electrodes with weld metal analysis conforming to A-No. 6, A-No. 8, or A-No. 9 per QW-442 on P-No. 6 and P-No. 1 base materials?

Reply (2): Yes.

Interpretation: IX-89-30

Subject: Section IX, QW-301.4

Date Issued: October 24, 1989

File: BC89-177

Question: In addition to the ranges in QW-452 as required by QW-301.4, is it a requirement to list the values or ranges for all other variables for which the welder is qualified (e.g. Materials Specification, P-Nos., F-Nos., etc.)?

Reply: No, additional information or limitations may be listed at the option of the Manufacturer.

Interpretation: IX-89-31

Subject: Section IX, QW-218, Applied Linings

Date Issued: October 24, 1989

File: BC89-178

Question: A carbon steel vessel requires the installation of an applied liner due to service conditions. If the weld is completed in such a way that it is essentially two fillet welds and a cover pass, would a weld procedure qualified for groove welding be acceptable?

Reply: No. See QW-218.

Section IX—Interpretations No. 26

IX-89-32, IX-89-33

Interpretation: IX-89-32**Subject:** Section IX, QW-216.1**Date Issued:** October 24, 1989**File:** BC89-287

Question: Do the requirements of QW-216.1 define the minimum base metal thickness qualified with one PQR or does it impose two PQRs for a procedure if it is the users intent to use it on both components over one inch thick and components less than one inch thick using identical parameters?

Reply: Two PQRs would be required.

Interpretation: IX-89-33**Subject:** Section IX, Welder Qualification**Date Issued:** October 30, 1989**File:** BC89-175

Question: Does the qualification of a welder using EXX 10 and EXX 18 electrode on P-No. 1 material also qualify him to weld P-No. 4 material with EXX 18 B 2L electrodes?

Reply: Yes.

Special Errata to Section IX, Interpretations Vol. 27

Pages 209 through 227 — *Correct* designators IX-90-34–IX-90-70 to read: IX-89-34–IX-89-70, respectively (revised pages are included in this Interpretations volume, following this page, please replace).

Page 222 — IX-90-60 has been withdrawn by the Committee, because the subject discussed in IX-90-60 was answered earlier in IX-86-48, Interpretations Vol. 20.

SECTION IX

Subject	Interpretation	File No.
QB-462.1(a) and (b)	IX-89-49	BC89-372
QW-200.3	IX-89-66	BC90-281
QW-200.3 and QW-466.1	IX-89-37	BC89-358
QW-200.4(a)(2)	IX-89-43	BC89-365
QW-204	IX-89-67	BC90-335
QW-216.2(d)	IX-89-39	BC89-361
QW-281.2(b)	IX-89-70	BC90-430
QW-281.5(a)	IX-89-44	BC89-366
QW-282 and QW-322	IX-89-54	BC89-367
QW-282.4(h)	IX-89-59	BC90-250
QW-300	IX-89-48	BC89-360
QW-322	IX-89-38	BC89-359
QW-322	IX-89-63	BC90-254
QW-356	IX-89-51	BC90-038
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QW-402.10	IX-89-42	BC89-364
QW-403.12 and QW-404.28	IX-89-61	BC90-252
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QW-404.5	IX-89-55	BC89-371
QW-404.5, QW-423.1, and QW-424.1	IX-89-58	BC90-249
QW-404.14	IX-89-68	BC90-349
QW-404.15	IX-89-47	BC89-370
QW-404.31	IX-89-56	BC90-036
QW-409.8 and QW-422	IX-89-36	BC89-357
QW-424	IX-89-41	BC89-363
QW-442	IX-89-46	BC89-369
QW-451 and QW-492	IX-89-62	BC90-253
QW-452.1	IX-89-52	BC90-044
QW-452.3	IX-89-69	BC90-401
QW-452.6	IX-89-57	BC90-040
QW-462.4(b)	IX-89-45	BC89-368
Articles II and IV, QW-302.3 and QW-452.1	IX-89-64	BC90-297
Article III, Welder Performance Qualification	IX-89-50	BC90-035
Limits of Qualification	IX-89-40	BC89-362
Multiprocess Qualification	IX-89-35	BC89-307
SFA 5.1, Para. 6.6.1	IX-89-65	BC90-289

Section IX — Interpretations No. 27

IX-89-34, IX-89-35

Interpretation: IX-89-34

Subject: Section IX, QW-404.5

Date Issued: January 3, 1990

File: BC89-172

Question: If a WPS and PQR have been qualified with filler material purchased to an established procurement document, is it required by QW-404.5 to requalify each time that filler material is reordered to the procurement document?

Reply: No.

Interpretation: IX-89-35

Subject: Section IX, Multiprocess Qualification

Date Issued: January 3, 1990

File: BC89-307

Question: A qualified (multiple process) WPS lists the following: Diameter and pipe schedule — 6 in. Sch. xxs (0.864 in. nominal thickness); GTAW root pass — 0.100 in. deposit thickness; SMAW hot and fill passes — 0.764 in. deposit thickness. A welder performed a performance qualification test, using the above WPS. An inspector, using a vernier caliper measured the root pass deposit and determined 0.125 in. thickness had been deposited by the GTAW process and subsequently rejected the performance test based on excessive deposit by the GTAW process. The coupon was radiographed and, additionally, side-bend specimens were removed and tested. Both met all the Section IX requirements for performance qualification. Since there are no tolerances stated in any of the tables relating to welding process deposits or test coupon specimens, does the Code require verification of the deposit thickness of weldments to the degree cited above?

Reply: No.

IX-89-36, IX-89-37

Section IX — Interpretations No. 27

Interpretation: IX-89-36

Subject: Section IX, QW-409.8 and QW-422

Date Issued: January 3, 1990

File: BC89-357

Question (1): When a constant current power supply is used in SMAW and GTAW, is a voltage or voltage range required to be listed on the WPS, provided the voltage is addressed (i.e. N/A)? Notch-toughness testing is not applicable.

Reply (1): No.

Question (2): ASTM SB-163, 166, 167, and 168 — Specification for Nickel Chromium Alloys in various shapes and forms, include UNS No. N06600 and UNS No. N06690 material. In the P-No. 43 base material listing, only UNS no. N06600 is specified. May the UNS No. N06690 be included in the P-No. 43 grouping to reduce welding procedure qualifications?

Reply (2): No.

Interpretation: IX-89-37

Subject: Section IX, QW-200.3 and QW-466.1

Date Issued: January 3, 1990

File: BC89-358

Question (1): The base metal Nickel Aluminum Bronze has a specified minimum elongation of 15%. Would the following side bend specimen thickness and test jig dimensions be acceptable? Specimen thickness = 0.28 in.; A = 1.69 in.; C = 2.375 in.

Reply (1): Yes.

Question (2): The dissimilar base metals Nickel Aluminum Bronze, which has no P-Number, and Aluminum Bronze, which falls under P-No. 35, are being joined together. Table QW-466.1 allows a specimen thickness of $\frac{1}{8}$ in. for P-No. 35. Could the dissimilar joint specimen thickness also be $\frac{1}{8}$ in.?

Reply (2): Yes.

Section IX — Interpretations No. 27

IX-89-38, IX-89-39

Interpretation: IX-89-38

Subject: Section IX, QW-322

Date Issued: January 3, 1990

File: BC89-359

Question: A welder/welder operator is qualified with the manual and machine GTAW process. He uses the manual GTAW process for a period of seven consecutive months during which he does not use the machine GTAW process. Does his machine GTAW qualification expire after six months even though the qualifications employ the same welding process?

Reply: Yes.

Interpretation: IX-89-39

Subject: Section IX, QW-216.2(d)

Date Issued: January 3, 1990

File: BC89-361

Question: When obtaining the chemical analysis required in QW-216.2(d) from the test coupon detailed in QW-462.5, shall the minimum thickness qualified be measured from the fusion line so that the chemical sample includes the effect of base metal dilution in the deposit?

Reply: Yes.

IX-89-40, IX-89-41

Section IX — Interpretations No. 27

Interpretation: IX-89-40

Subject: Section IX, Limits of Qualification

Date Issued: January 3, 1990

File: BC89-362

Question (1): A WPS has a qualified PQR using a $\frac{1}{2}$ in. thick test coupon and a preheat of 100°F. The same WPS also has a qualified PQR using a $\frac{1}{4}$ in. plate and a preheat of 300°F. All other essential variables were the same for both tests. Will a combination of these two PQRs support the production welding of $\frac{1}{8}$ in. thick plate requiring a preheat of 100°F?

Reply (1): No.

Question (2): A welder is qualified with the SMAW process in the 2G position using backing. He is also qualified with the SMAW process in the 3G position without backing. All other essential variables were the same for both qualifying tests. Is the welder qualified to weld in the 2G position without backing?

Reply (2): No.

Interpretation: IX-89-41

Subject: Section IX, QW-424

Date Issued: January 3, 1990

File: BC89-363

Question (1): May a procedure, which is qualified using an assigned base metal identified on the PQR and WPS by chemical composition and mechanical properties as well as P-Number, be used to weld an unassigned base metal which matches the composition and mechanical properties of the base metal identified on the PQR and WPS?

Reply (1): No.

Question (2): May a procedure, which is qualified using an unassigned base metal identified on the PQR and WPS by specification type and grade or chemical composition and mechanical properties, be used to weld an assigned base metal which matches the composition and mechanical properties of the base metal identified on the PQR and WPS?

Reply (2): No.

Question (3): May a welding procedure qualification record be revised to add the base metal specification type and grade and/or chemical composition and mechanical properties, provided this information can be substantiated by lab records or similar data?

Reply (3): Yes.

Section IX — Interpretations No. 27

IX-89-42, IX-89-43, IX-89-44

Interpretation: IX-89-42

Subject: Section IX, QW-402.10

Date Issued: January 3, 1990

File: BC89-364

Question: A WPS has been qualified using a PQR, can the root opening be increased by an unlimited amount without further qualification, provided the root opening is a nonessential variable?

Reply: Yes.

Interpretation: IX-89-43

Subject: Section IX, QW-200.4(a)(2)

Date Issued: January 3, 1990

File: BC89-365

Question: Are the requirements of Section IX met when the PQRs list the thickness welded for each welding process in the test coupon and the thickness range qualified for each welding process in accordance with QW-451, and the WPS specifies the process for each layer and references the PQRs which are available and list the total thickness to be welded in compliance with QW-451?

Reply: Yes.

Interpretation: IX-89-44

Subject: Section IX, QW-281.5(a)

Date Issued: January 3, 1990

File: BC89-366

Question: Do the requirements of QW-281.5(a) and QW-282.6(a) apply to the mechanical oscillator?

Reply: No.

IX-89-45, IX-89-46

Section IX — Interpretations No. 27

Interpretation: IX-89-45

Subject: Section IX, QW-462.4(b)

Date Issued: January 3, 1990

File: BC89-368

Question (1): Is it a mandatory requirement to stop and restart the weld near the center of the test piece?

Reply (1): Yes.

Question (2): Is it allowable to stop the weld near the center and restart the weld from the opposite end and finish the weld on the center weld crater?

Reply (2): No.

Interpretation: IX-89-46

Subject: Section IX, QW-442

Date Issued: January 3, 1990

File: BC89-369

Question (1): Are the bare carbon steel electrodes identified as ER-70S6 and ER-70S2 both classified as F-No. 6 filler metal?

Reply (1): Yes.

Question (2): May the weld deposit from the bare carbon steel electrodes identified as ER-70S6 and ER-70S2 be classified as A-No. 1, provided the requirements of QW-404.5 and QW-442 are met?

Reply (2): Yes.

Section IX — Interpretations No. 27

IX-89-47, IX-89-48

Interpretation: IX-89-47

Subject: Section IX, QW-404.15

Date Issued: January 3, 1990

File: BC89-370

Question: When preparing welder or welding operator qualification records for the SMAW process, is it required that deposited weld metal thickness with F-No. 3 and F-No. 4 electrodes be recorded separately, i.e., F-No. 3 = 0.125 in.; F-No. 4 = 0.750 in.? The process is the same.

Reply: No.

Interpretation: IX-89-48

Subject: Section IX, QW-300

Date Issued: February 28, 1990

File: BC89-360

Question (1): Must the Welding Procedure Specification (WPS) used for performance qualification be supported by a Procedure Qualification Record (PQR) meeting the requirements of Article II?

Reply (1): Yes.

Question (2): Are welding Procedure Qualification Record (PQR) as per Article II and welding performance qualifications as per Article III independent of each other?

Reply (2): See Question (1) above.

Question (3): Can a welder performance qualification be carried out prior to welding procedure qualifications as per Article II?

Reply (3): No, except as provided in QW-301.2.

Question (4): If a welding procedure fails to meet the mechanical test results as required by QW-200, is the welder or welding operator deemed to have been qualified, as long as the procedure qualification test plate or pipe is radiographed and meets the requirements of QW-304 or QW-305?

Reply (4): No.

IX-89-49, IX-89-50

Section IX — Interpretations No. 27

Interpretation: IX-89-49

Subject: Section IX, QB-462.1(a) and (b)

Date Issued: February 28, 1990

File: BC89-372

Question (1): Is the tension-reduced Section thickness tested in QB-462.1(a) and (b) always the nominal thickness of the brazed material?

Reply (1): Yes.

Question (2): May the specimen thickness requirements for QB-462.2(a) and (b) also be used for the tension-reduced Section specimens in QB-462.1(a) and (b)?

Reply (2): No.

Interpretation: IX-89-50

Subject: Section IX, Article III, Welder Performance Qualification

Date Issued: February 28, 1990

File: BC90-035

Question: Does Section IX, Article III, have visual inspection acceptance criteria?

Reply: No.

Section IX — Interpretations No. 27

IX-89-51, IX-89-52, IX-89-53

Interpretation: IX-89-51

Subject: Section IX, QW-356

Date Issued: February 28, 1990

File: BC90-038

Question: Is a welder, qualified to manually weld P-No. 8 material to itself with an F-No. 6 filler material using the GTAW process, qualified within the same essential variables to manually weld P-No. 10H material to itself with an F-No. 6 filler material using the GTAW process given the following conditions?

(1) Two separate qualified WPs exist; one for the P-No. 8/F-No. 6 combination, the other covering the P-No. 10H/F-No. 6 combination;

(2) The filler metal used to join the P-No. 10H material was designated as F-No. 6 by virtue of QW-404.28.

Reply: Yes.

Interpretation: IX-89-52

Subject: Section IX, QW-452.1

Date Issued: February 28, 1990

File: BC90-044

Question: For the maximum thickness qualified on a test coupon of $\frac{3}{4}$ in. or more in thickness, does "Max. to be welded" mean that the maximum qualified weld thickness is unlimited?

Reply: Yes.

Interpretation: IX-89-53

Subject: Section IX, QW-402

Date Issued: February 28, 1990

File: BC90-045

Question: In preparing a weld procedure specification for a square-butt joint using the GTAW process without the addition of filler metal making a single pass each side and developing 60% to 80% weld penetration with each weld pass, is the weld joint considered to employ a backing material?

Reply: Yes.

IX-89-54, IX-89-55

Section IX — Interpretations No. 27

Interpretation: IX-89-54**Subject:** Section IX, QW-282 and QW-322**Date Issued:** March 6, 1990**File:** BC89-367

Question (1): According to QW-282.4(f), if a WPS is qualified for horizontal, vertical, and overhead positions, using different heat inputs for all three positions, is each position limited by maximum heat input qualified for that position?

Reply (1): Yes.

Question (2): In QW-282.4(c), (h), (i), and (j), must these essential variables be addressed on the WPS and PQR, when they are not applicable to the welding operation?

Reply (2): Yes.

Question (3): In considering the requirements of QW-282.2(d), a WPS was written for all positions but qualified only for the 2G, 3G, and 1G positions. PQRs qualifying these positions were referenced on the WPS, however, the WPS stated in the position section "all." Does the WPS require change to reflect the positions qualified?

Reply (3): Yes.

Interpretation: IX-89-55**Subject:** Section IX, QW-404.5**Date Issued:** June 4, 1990**File:** BC89-371

Question (1): Can an A-Number be established by a material manufacturer's or material supplier's certificate of compliance (C of C) which shows "typical" results?

Reply (1): Yes.

Question (2): Is a WPS using the GMAW process qualified if the essential variables, F-Number and A-Number, remain the same but only the AWS classification is changed from that used in the original procedure qualification test coupon?

Reply (2): Yes, provided the same A-Number has been established per QW-404.5.

Section IX — Interpretations No. 27

IX-89-56, IX-89-57, IX-89-58

Interpretation: IX-89-56

Subject: Section IX, QW-404.31

Date Issued: June 4, 1990

File: BC90-036

Question: Is it necessary to continually requalify the submerged arc welding procedure each time the reclaiming process is repeated with the same material?

Reply: Section IX does not address this situation.

Interpretation: IX-89-57

Subject: Section IX, QW-452.6

Date Issued: June 4, 1990

File: BC90-040

Question: Is a welder or welding operator that has been qualified by radiography of a groove weld, in accordance with QW-304, also permitted to deposit fillet welds?

Reply: Yes. See QW-303.1.

Interpretation: IX-89-58

Subject: Section IX, QW-404.5, QW-423.1, and QW-424.1

Date Issued: June 4, 1990

File: BC90-249

Question (1): A WPS is qualified for P-No.5 Gr. No. 1 to P-No. 5 Gr. No. 1 base metals. Will the PQR for this procedure also support a new WPS for P-No. 5 Gr. No. 1 to P-No. 4 base metals if all other welding variables remain the same?

Reply (1): Yes.

Question (2): Would a welder who is qualified using the first WPS (P-No. 5 Gr. No. 1 to P-No. 5 Gr. No. 1 base metals) automatically be qualified to weld using the new WPS (P-No. 5 Gr. No. 1 to P-No. 4 base metals) if all other performance variables remain the same?

Reply (2): Yes.

Question (3): Would a new PQR be required if the filler metal used for the first process (F-No. 6 A-No. 4, ER 90SB3) was changed (to F-No. 6 A-No. 3, ER 80SB2) on the new WPS?

Reply (3): Yes.

IX-89-59

Section IX — Interpretations No. 27

Interpretation: IX-89-59

Subject: Section IX, QW-282.4(h)

Date Issued: June 4, 1990

File: BC90-250

Question: Is QW-282.4(h), the addition or omission of supplementary powder to the welding arc, an essential variable when depositing hardfacing using the gas tungsten arc welding process?

Reply: Yes.

Section IX — Interpretations No. 27

IX-89-61

Interpretation: IX-89-61

Subject: Section IX, QW-403.12 and QW-404.28

Date Issued: June 4, 1990

File: BC90-252

Question (1): Are the essential variables QW-403.10 and QW-403.11 as shown in QW-415 valid if they are not listed as a variable in Article IV?

Reply (1): Please be informed that in the 1989 Edition of Section IX, part of QW-403 was inadvertently omitted. The correct version of QW-403 has been issued in the 1989 Addenda to Section IX.

Question (2): What is the difference between the variables of QW-403.11 and QW-403.12?

Reply (2): This question falls into the category of a consulting request. Unfortunately, ASME does not provide consulting aid.

Question (3): In accordance with QW-404.28 may a welder who qualified on P-No. 8 Group 1 material using the GTAW process and SFA-5.9 filler material weld P-No. 1 material (within other qualification limits) using SFA 5.18 filler material without requalification?

Reply (3): Yes, see QW-423.

Question (4): Will the elimination of inert gas backing require requalification of the welder?

Reply (4): Yes, except when the qualified WPS is changed in accordance with QW-408.8.

Question (5): In accordance with QW-404.28 may a welder who qualified on P-No. 1 material using GTAW and F-No. 6 filler material weld P-No. 8 material using F-No. 6 filler material?

Reply (5): Yes.

IX-89-62, IX-89-63

Section IX — Interpretations No. 27

Interpretation: IX-89-62

Subject: Section IX, QW-451 and QW-492

Date Issued: June 4, 1990

File: BC90-253

Question (1): To qualify a groove-weld procedure to cover welding a base metal range $\frac{3}{16}$ in. to 8 in. and deposited weld metal thickness range up to 8 in., is it permissible to weld a single partial penetration groove $\frac{3}{4}$ in. deep on a single piece of $1\frac{1}{2}$ in. thick plate?

Reply (1): Yes.

Question (2): Within the limits stated in QW-451, does a partial penetration groove procedure qualify for welding a full penetration groove and vice versa?

Reply: Yes.

Question (3): Does a different number of members to be welded in a weld joint require separate procedure qualifications?

Reply: No.

Interpretation: IX-89-63

Subject: Section IX, QW-322

Date Issued: June 4, 1990

File: BC90-254

Question: A welder is qualified for SMAW and GTAW processes, but these qualifications expire per QW-322(a). If he welds a single test coupon per QW-322(c)(1) using SMAW only, is he qualified to weld using GTAW?

Reply: No.

Section IX -- Interpretations No. 27

IX-89-64, IX-89-65

Interpretation: IX-89-64

Subject: Section IX, Article II, QW-302.3; Article IV, QW-452.1

Date Issued: June 4, 1990

File: BC90-297

Question: May two side-bend tests be substituted for four required face- and root-bend tests [Note (7) -- QW-452.1] for the 5G and 6G positions?

Reply: No.

Interpretation: IX-89-65

Subject: Section II, Part C, SFA 5.1, Paragraph 6.1.1

Date Issued: June 4 1990

File: BC90-289

Question: For Code use of welding electrodes in cartons identified as AWS A5.1 in accordance with the 1989 ASME Boiler and Pressure Vessel Code Section II Part C, SFA 5.1 paragraph 6.1.1, is it necessary to also identify the cartons by printing "ASME Section II C SFA 5.1?"

Reply: No.

IX-89-66, IX-89-67

Section IX — Interpretations No. 27

Interpretation: IX-89-66

Subject: Section IX, QW-200.3

Date Issued: June 4, 1990

File: BC90-281

Question (1): A welding procedure is qualified using AISI 1040 base material in the quenched and tempered condition. The mechanical properties of the base material meet or exceed the following minimum values: 70,000 psi UTS, 45,000 psi Yield (0.2%), 19% Elong., 32% ROA, (impact testing is not required). Is this procedure also qualified for base materials conforming to AISI 1026 through 1039 (inclusive) and 1042 nominal compositions, quenched and tempered, and which meet or exceed the same minimum specified properties?

Reply (1): No.

Question (2): Is this procedure also qualified for AISI 1040 base materials (and AISI 1026 through 1042 if so determined per Question 1), quenched and tempered, which meet or exceed higher (or lower) minimum specified mechanical properties (impact testing not required), provided that the minimum specified tensile strength for the base material does not exceed the tensile strength of the reduced-section tensile specimens used to qualify the procedure?

Reply (2): No.

Interpretation: IX-89-67

Subject: Section IX, QW-204

Date Issued: June 4, 1990

File: BC90-335

Question: Does the combination of two PQRs, one of SAW process and the other of SMAW process, support a WPS combining the two processes in a single production joint, with all essential and supplementary essential variables unchanged?

Reply: Yes.

Section IX — Interpretations No. 27

IX-89-68, IX-89-69, IX-89-70

Interpretation: IX-89-68

Subject: Section IX, QW-404.14

Date Issued: June 4, 1990

File: BC90-349

Question: Does a GTAW PQR which supports a WPS with a consumable insert also qualify for manual GTAW repair of the rootpass or closing of an "open window" in the root with the same F-Number and A-Number filler metal?

Reply: Yes, however, the WPS must define all of the variables necessary for the insert fusion and the manual root repair or window closing.

Interpretation: IX-89-69

Subject: Section IX, QW-452.3

Date Issued: June 4, 1990

File: BC90-401

Question: If a welder qualifies on an 8 in. diameter pipe, is he then qualified down to $2\frac{7}{8}$ in. outside diameter?

Reply: Yes.

Interpretation: IX-89-70

Subject: Section IX, QW-281.2(b)

Date Issued: June 4, 1990

File: BC90-430

Question: In QW-281.2(b), is a corrosion-resistant weld metal overlay cladding procedure qualified on QW-422, P-No.1 base metal, also qualified for applying the same corrosion-resistant weld metal overlay on QW-422, A-No. 1 or A-No.2 weld deposit?

Reply: Yes.

ASME Boiler and Pressure Vessel Code

SECTION I

INTERPRETATIONS

Volume 28

The Interpretations to the Code will be issued twice a year up to the publication of the 1992 Edition of the Code: each July (designated 7/89, 7/90, and 7/91) and with each Addenda (designated A89, A90, and A91). The Interpretations for each individual Section are published separately and are part of the update service to that Section; Interpretations of Section III, Divisions 1 and 2, are part of the update service to Section III, Subsection NCA. Interpretations are not part of the Code or the Addenda.

Interpretations Volumes 18 through 23 were included with the update service to the 1986 Edition of the Code; Volume 24 is the first Interpretations volume to be included with the update service to the 1989 Edition.

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Section IX — Interpretations No. 27

IX-90-34, IX-90-35

Interpretation: IX-90-34**Subject:** Section IX, QW-404.5**Date Issued:** January 3, 1990**File:** BC89-172

Question: If a WPS and PQR have been qualified with filler material purchased to an established procurement document, is it required by QW-404.5 to requalify each time that filler material is reordered to the procurement document?

Reply: No.

Interpretation: IX-90-35**Subject:** Section IX, Multiprocess Qualification**Date Issued:** January 3, 1990**File:** BC89-307

Question: A qualified (multiple process) WPS lists the following: Diameter and pipe schedule — 6 in. Sch. xxs (0.864 in. nominal thickness); GTAW root pass — 0.100 in. deposit thickness; SMAW hot and fill passes — 0.764 in. deposit thickness. A welder performed a performance qualification test, using the above WPS. An inspector, using a vernier caliper measured the root pass deposit and determined 0.125 in. thickness had been deposited by the GTAW process and subsequently rejected the performance test based on excessive deposit by the GTAW process. The coupon was radiographed and, additionally, side-bend specimens were removed and tested. Both met all the Section IX requirements for performance qualification. Since there are no tolerances stated in any of the tables relating to welding process deposits or test coupon specimens, does the Code require verification of the deposit thickness of weldments to the degree cited above?

Reply: No.

IX-90-36, IX-90-37

Section IX — Interpretations No. 27

Interpretation: IX-90-36**Subject:** Section IX, QW-409.8 and QW-422**Date Issued:** January 3, 1990**File:** BC89-357

Question (1): When a constant current power supply is used in SMAW and GTAW, is a voltage or voltage range required to be listed on the WPS, provided the voltage is addressed (i.e. N/A)? Notch-toughness testing is not applicable.

Reply (1): No.

Question (2): ASTM SB-163, 166, 167, and 168 — Specification for Nickel Chromium Alloys in various shapes and forms, include UNS No. N06600 and UNS No. N06690 material. In the P-No. 43 base material listing, only UNS no. N06600 is specified. May the UNS No. N06690 be included in the P-No. 43 grouping to reduce welding procedure qualifications?

Reply (2): No.

Interpretation: IX-90-37**Subject:** Section IX, QW-200.3 and QW-466.1**Date Issued:** January 3, 1990**File:** BC89-358

Question (1): The base metal Nickel Aluminum Bronze has a specified minimum elongation of 15%. Would the following side bend specimen thickness and test jig dimensions be acceptable? Specimen thickness = 0.28 in.; A = 1.69 in.; C = 2.375 in.

Reply (1): Yes.

Question (2): The dissimilar base metals Nickel Aluminum Bronze, which has no P-Number, and Aluminum Bronze, which falls under P-No. 35, are being joined together. Table QW-466.1 allows a specimen thickness of $\frac{1}{8}$ in. for P-No. 35. Could the dissimilar joint specimen thickness also be $\frac{1}{8}$ in.?

Reply (2): Yes.

Section IX — Interpretations No. 27

IX-90-38, IX-90-39

Interpretation: IX-90-38**Subject: Section IX, QW-322****Date Issued: January 3, 1990****File: BC89-359**

Question: A welder/welder operator is qualified with the manual and machine GTAW process. He uses the manual GTAW process for a period of seven consecutive months during which he does not use the machine GTAW process. Does his machine GTAW qualification expire after six months even though the qualifications employ the same welding process?

Reply: Yes.

Interpretation: IX-90-39**Subject: Section IX, QW-216.2(d)****Date Issued: January 3, 1990****File: BC89-361**

Question: When obtaining the chemical analysis required in QW-216.2(d) from the test coupon detailed in QW-462.5, shall the minimum thickness qualified be measured from the fusion line so that the chemical sample includes the effect of base metal dilution in the deposit?

Reply: Yes.

IX-90-40, IX-90-41

Section IX — Interpretations No. 27

Interpretation: IX-90-40**Subject:** Section IX, Limits of Qualification**Date Issued:** January 3, 1990**File:** BC89-362

Question (1): A WPS has a qualified PQR using $\frac{1}{2}$ in. thick test coupon and a preheat of 100°F. The same WPS also has a qualified PQR using a $\frac{1}{4}$ in. plate and a preheat of 300°F. All other essential variables were the same for both tests. Will a combination of these two PQRs support the production welding of $\frac{1}{8}$ in. thick plate requiring a preheat of 100°F?

Reply (1): No.

Question (2): A welder is qualified with the SMAW process in the 2G position using backing. He is also qualified with the SMAW process in the 3G position without backing. All other essential variables were the same for both qualifying tests. Is the welder qualified to weld in the 2G position without backing?

Reply (2): No.

Interpretation: IX-90-41**Subject:** Section IX, QW-424**Date Issued:** January 3, 1990**File:** BC89-363

Question (1): May a procedure, which is qualified using an assigned base metal identified on the PQR and WPS by chemical composition and mechanical properties as well as P-Number, be used to weld an unassigned base metal which matches the composition and mechanical properties of the base metal identified on the PQR and WPS?

Reply (1): No.

Question (2): May a procedure, which is qualified using an unassigned base metal identified on the PQR and WPS by specification type and grade or chemical composition and mechanical properties, be used to weld an assigned base metal which matches the composition and mechanical properties of the base metal identified on the PQR and WPS?

Reply (2): No.

Question (3): May a welding procedure qualification record be revised to add the base metal specification type and grade and/or chemical composition and mechanical properties, provided this information can be substantiated by lab records or similar data?

Reply (3): Yes.

Section IX — Interpretations No. 27

IX-90-42, IX-90-43, IX-90-44

Interpretation: IX-90-42**Subject:** Section IX, QW-402.10**Date Issued:** January 3, 1990**File:** BC89-364

Question: A WPS has been qualified using a PQR, can the root opening be increased by an unlimited amount without further qualification, provided the root opening is a nonessential variable?

Reply: Yes.

Interpretation: IX-90-43**Subject:** Section IX, QW-200.4(a)(2)**Date Issued:** January 3, 1990**File:** BC89-365

Question: Are the requirements of Section IX met when the PQRs list the thickness welded for each welding process in the test coupon and the thickness range qualified for each welding process in accordance with QW-451, and the WPS specifies the process for each layer and references the PQRs which are available and list the total thickness to be welded in compliance with QW-451?

Reply: Yes.

Interpretation: IX-90-44**Subject:** Section IX, QW-281.5(a)**Date Issued:** January 3, 1990**File:** BC89-366

Question: Do the requirements of QW-281.5(a) and QW-282.6(a) apply to the mechanical oscillator?

Reply: No.

IX-90-45, IX-90-46

Section IX — Interpretations No. 27

Interpretation: IX-90-45**Subject:** Section IX, QW-462.4(b)**Date Issued:** January 3, 1990**File:** BC89-368

Question (1): Is it a mandatory requirement to stop and restart the weld near the center of the test piece?

Reply (1): Yes.

Question (2): Is it allowable to stop the weld near the center and restart the weld from the opposite end and finish the weld on the center weld crater?

Reply (2): No.

Interpretation: IX-90-46**Subject:** Section IX, QW-442**Date Issued:** January 3, 1990**File:** BC89-369

Question (1): Are the bare carbon steel electrodes identified as ER-70S6 and ER-70S2 both classified as F-No. 6 filler metal?

Reply (1): Yes.

Question (2): May the weld deposit from the bare carbon steel electrodes identified as ER-70S6 and ER-70S2 be classified as A-No. 1, provided the requirements of QW-404.5 and QW-442 are met?

Reply (2): Yes.

Section IX — Interpretations No. 27

IX-90-47, IX-90-48

Interpretations: IX-90-47**Subject:** Section IX, QW-404.15**Date Issued:** January 3, 1990**File:** BC89-370

Question: When preparing welder or welding operator qualification records for the SMAW process, is it required that deposited weld metal thickness with F-No. 3 and F-No. 4 electrodes be recorded separately, i.e., F-No. 3 = 0.125 in.; F-No. 4 = 0.750 in.? The process is the same.

Reply: No.

Interpretation: IX-90-48**Subject:** Section IX, QW-300**Date Issued:** February 28, 1990**File:** BC89-360

Question (1): Must the Welding Procedure Specification (WPS) used for performance qualification be supported by a Procedure Qualification Record (PQR) meeting the requirements of Article II?

Reply (1): Yes.

Question (2): Are welding Procedure Qualification Record (PQR) as per Article II and welding performance qualifications as per Article III independent of each other?

Reply (2): See Question (1) above.

Question (3): Can a welder performance qualification be carried out prior to welding procedure qualifications as per Article II?

Reply (3): No, except as provided in QW-301.2.

Question (4): If a welding procedure fails to meet the mechanical test results as required by QW-200, is the welder or welding operator deemed to have been qualified, as long as the procedure qualification test plate or pipe is radiographed and meets the requirements of QW-304 or QW-305?

Reply (4): No.

IX-90-49, IX-90-50

Section IX — Interpretations No. 27

Interpretation: IX-90-49

Subject: Section IX, QB-462.1(a) and (b)

Date Issued: February 28, 1990

File: BC89-372

Question (1): Is the tension-reduced Section thickness tested in QB-462.1(a) and (b) always the nominal thickness of the brazed material?

Reply (1): Yes.

Question (2): May the specimen thickness requirements for QB-462.2(a) and (b) also be used for the tension-reduced Section specimens in QB-462.1(a) and (b)?

Reply (2): No.

Interpretation: IX-90-50

Subject: Section IX, Article III, Welder Performance Qualification

Date Issued: February 28, 1990

File: BC90-035

Question: Does Section IX, Article III, have visual inspection acceptance criteria?

Reply: No.

Section IX — Interpretations No. 27

IX-90-51, IX-90-52, IX-90-53

Interpretation: IX-90-51**Subject:** Section IX, QW-356**Date Issued:** February 28, 1990**File:** BC90-038

Question: Is a welder, qualified to manually weld P-No. 8 material to itself with an F-No. 6 filler material using the GTAW process, qualified within the same essential variables to manually weld P-No. 10H material to itself with an F-No. 6 filler material using the GTAW process given the following conditions?

(1) Two separate qualified WPs exist; one for the P-No. 8/F-No. 6 combination, the other covering the P-No. 10H/F-No. 6 combination;

(2) The filler metal used to join the P-No. 10H material was designated as F-No. 6 by virtue of QW-404.28.

Reply: Yes.

Interpretation: IX-90-52**Subject:** Section IX, QW-452.1**Date Issued:** February 28, 1990**File:** BC90-044

Question: For the maximum thickness qualified on a test coupon of $\frac{3}{4}$ in. or more in thickness, does "Max. to be welded" mean that the maximum qualified weld thickness is unlimited?

Reply: Yes.

Interpretation: IX-90-53**Subject:** Section IX, QW-402**Date Issued:** February 28, 1990**File:** BC90-045

Question: In preparing a weld procedure specification for a square-butt joint using the GTAW process without the addition of filler metal making a single pass each side and developing 60% to 80% weld penetration with each weld pass, is the weld joint considered to employ a backing material?

Reply: Yes.

IX-90-54, IX-90-55

Section IX — Interpretations No. 27

Interpretation: IX-90-54**Subject:** Section IX, QW-282 and QW-322**Date Issued:** March 6, 1990**File:** BC89-367

Question (1): According to QW-282.4(f), if a WPS is qualified for horizontal, vertical, and overhead positions, using different heat inputs for all three positions, is each position limited by maximum heat input qualified for that position?

Reply (1): Yes.

Question (2): In QW-282.4(c), (h), (i), and (j), must these essential variables be addressed on the WPS and PQR, when they are not applicable to the welding operation?

Reply (2): Yes.

Question (3): In considering the requirements of QW-282.2(d), a WPS was written for all positions but qualified only for the 2G, 3G, and 1G positions. PQRs qualifying these positions were referenced on the WPS, however, the WPS stated in the position section "all." Does the WPS require change to reflect the positions qualified?

Reply (3): Yes.

Interpretation: IX-90-55**Subject:** Section IX, QW-404.5**Date Issued:** June 4, 1990**File:** BC89-371

Question (1): Can an A-Number be established by a material manufacturer's or material supplier's certificate of compliance (C of C) which shows "typical" results?

Reply (1): Yes.

Question (2): Is a WPS using the GMAW process qualified if the essential variables, F-Number and A-Number, remain the same but only the AWS classification is changed from that used in the original procedure qualification test coupon?

Reply (2): Yes, provided the same A-Number has been established per QW-404.5.

Section IX — Interpretations No. 27

IX-90-56, IX-90-57, IX-90-58

Interpretation: IX-90-56**Subject:** Section IX, QW-404.31**Date Issued:** June 4, 1990**File:** BC90-036

Question: Is it necessary to continually requalify the submerged arc welding procedure each time the reclaiming process is repeated with the same material?

Reply: Section IX does not address this situation.

Interpretation: IX-90-57**Subject:** Section IX, QW-452.6**Date Issued:** June 4, 1990**File:** BC90-040

Question: Is a welder or welding operator that has been qualified by radiography of a groove weld, in accordance with QW-304, also permitted to deposit fillet welds?

Reply: Yes. See QW-303.1.

Interpretation: IX-90-58**Subject:** Section IX, QW-404.5, QW-423.1, and QW-424.1**Date Issued:** June 4, 1990**File:** BC90-249

Question (1): A WPS is qualified for P-No. 5 Gr. No. 1 to P-No. 5 Gr. No. 1 base metals. Will the PQR for this procedure also support a new WPS for P-No. 5 Gr. No. 1 to P-No. 4 base metals if all other welding variables remain the same?

Reply (1): Yes.

Question (2): Would a welder who is qualified using the first WPS (P-No. 5 Gr. No. 1 to P-No. 5 Gr. No. 1 base metals) automatically be qualified to weld using the new WPS (P-No. 5 Gr. No. 1 to P-No. 4 base metals) if all other performance variables remain the same?

Reply (2): Yes.

Question (3): Would a new PQR be required if the filler metal used for the first process (F-No. 6 A-No. 4, ER 90SB3) was changed (to F-No. 6 A-No. 3, ER 80SB2) on the new WPS?

Reply (3): Yes.

IX-90-59, IX-90-60

Section IX — Interpretations No. 27

Interpretation: IX-90-59**Subject:** Section IX, QW-282.4(h)**Date Issued:** June 4, 1990**File:** BC90-250

Question: Is QW-282.4(h), the addition or omission of supplementary powder to the welding arc, an essential variable when depositing hardfacing using the gas tungsten arc welding process?

Reply: Yes.

Interpretation: IX-90-60**Subject:** Section IX, QW-403.6**Date Issued:** June 4, 1990**File:** BC90-251

Question: A welding procedure specification is being qualified in accordance with a construction code requiring impact testing. The heat affected zone, however, is exempt by the construction code from impact testing. Is a procedure qualification test, conducted on 1 in. thick plate, qualified for a base metal thickness range of $\frac{5}{8}$ in. to 2 in. or $\frac{3}{16}$ in. to 2 in.?

Reply: Where impact testing is required by the construction code the qualified base metal thickness range, according to Section IX, is $\frac{5}{8}$ in. to 2 in.

Section IX — Interpretations No. 27

IX-90-61

Interpretation: IX-90-61**Subject:** Section IX, QW-403.12 and QW-404.28**Date Issued:** June 4, 1990**File:** BC90-252

Question (1): Are the essential variables QW-403.10 and QW-403.11 as shown in QW-415 valid if they are not listed as a variable in Article IV?

Reply (1): Please be informed that in the 1989 Edition of Section IX, part of QW-403 was inadvertently omitted. The correct version of QW-403 has been issued in the 1989 Addenda to Section IX.

Question (2): What is the difference between the variables of QW-403.11 and QW-403.12?

Reply (2): This question falls into the category of a consulting request. Unfortunately, ASME does not provide consulting aid.

Question (3): In accordance with QW-404.28 may a welder who qualified on P-No. 8 Group 1 material using the GTAW process and SFA-5.9 filler material weld P-No. 1 material (within other qualification limits) using SFA 5.18 filler material without requalification?

Reply (3): Yes, see QW-423.

Question (4): Will the elimination of inert gas backing require requalification of the welder?

Reply (4): Yes, except when the qualified WPS is changed in accordance with QW-408.8.

Question (5): In accordance with QW-404.28 may a welder who qualified on P-No. 1 material using GTAW and F-No. 6 filler material weld P-No. 8 material using F-No. 6 filler material?

Reply (5): Yes.

IX-90-62, IX-90-63

Section IX -- Interpretations No. 27

Interpretation: IX-90-62**Subject:** Section IX, QW-451 and QW-492**Date Issued:** June 4, 1990**File:** BC90-253

Question (1): To qualify a groove-weld procedure to cover welding a base metal range $\frac{3}{16}$ in. to 8 in. and deposited weld metal thickness range up to 8 in., is it permissible to weld a single partial penetration groove $\frac{3}{4}$ in. deep on a single piece of $1\frac{1}{2}$ in. thick plate?

Reply (1): Yes.

Question (2): Within the limits stated in QW-451, does a partial penetration groove procedure qualify for welding a full penetration groove and vice versa?

Reply: Yes.

Question (3): Does a different number of members to be welded in a weld joint require separate procedure qualifications?

Reply: No.

Interpretation: IX-90-63**Subject:** Section IX, QW-322**Date Issued:** June 4, 1990**File:** BC90-254

Question: A welder is qualified for SMAW and GTAW processes, but these qualifications expire per QW-322(a). If he welds a single test coupon per QW-322(c)(1) using SMAW only, is he qualified to weld using GTAW?

Reply: No.

Section IX — Interpretations No. 27

IX-90-64, IX-90-65

Interpretation: IX-90-64**Subject:** Section IX, Article II, QW-302.3; Article IV, QW-452.1**Date Issued:** June 4, 1990**File:** BC90-297

Question: May two side-bend tests be substituted for four required face- and root-bend tests [Note (7) — QW-452.1] for the 5G and 6G positions?

Reply: No.

Interpretation: IX-90-65**Subject:** Section II, Part C, SFA 5.1, Paragraph 6.1.1**Date Issued:** June 4 1990**File:** BC90-289

Question: For Code use of welding electrodes in cartons identified as AWS A5.1 in accordance with 1989 ASME Boiler and Pressure Vessel Code Section II Part C, SFA 5.1 paragraph 6.1.1, is it necessary to also identify the cartons by printing "ASME Section II C SFA 5.1?"

Reply: No.

IX-90-66, IX-90-67

Section IX — Interpretations No. 27

Interpretation: IX-90-66**Subject: Section IX, QW-200.3****Date Issued: June 4, 1990****File: BC90-281**

Question (1): A welding procedure is qualified using AISI 1040 base material in the quenched and tempered condition. The mechanical properties of the base material meet or exceed the following minimum values: 70,000 psi UTS, 45,000 psi Yield (0.2%), 19% Elong., 32% ROA, (impact testing is not required). Is this procedure also qualified for base materials conforming to AISI 1026 through 1039 (inclusive) and 1042 nominal compositions, quenched and tempered, and which meet or exceed the same minimum specified properties?

Reply: No.

Question (2): Is this procedure also qualified for AISI 1040 base materials (and AISI 1026 through 1042 if so determined per Question 1), quenched and tempered, which meet or exceed higher (or lower) minimum specified mechanical properties (impact testing not required), provided that the minimum specified tensile strength for the base material does not exceed the tensile strength of the reduced-section tensile specimens used to qualify the procedure?

Reply: No.

interpretation: IX-90-67**Subject: Section IX, QW-204****Date Issued: June 4, 1990****File: BC90-335**

Question: Does the combination of two PQRs, one of SAW process and the other of SMAW process, support a WPS combining the two processes in a single production joint, with all essential and supplementary essential variables unchanged?

Reply: Yes.

Section IX — Interpretations No. 27

IX-90-68, IX-90-69, IX-90-70

Interpretation: IX-90-68**Subject:** Section IX, QW-404.14**Date Issued:** June 4, 1990**File:** BC90-349

Question: Does a GTAW PQR which supports a WPS with a consumable insert also qualify for manual GTAW repair of the rootpass or closing of an "open window" in the root with the same F-Number and A-Number filler metal?

Reply: Yes, however, the WPS must define all of the variables necessary for the insert fusion and the manual root repair or window closing.

Interpretation: IX-90-69**Subject:** Section IX, QW-452.3**Date Issued:** June 4, 1990**File:** BC90-401

Question: If a welder qualifies on an 8 in. diameter pipe, is he then qualified down to $2\frac{7}{8}$ in. outside diameter?

Reply: Yes.

Interpretation: IX-90-70**Subject:** Section IX, QW-281.2(b)**Date Issued:** June 4, 1990**File:** BC90-430

Question: In QW-281.2(b), is a corrosion-resistant weld metal overlay cladding procedure qualified on QW-422, P-No.1 base metal, also qualified for applying the same corrosion-resistant weld metal overlay on QW-422, A-No. 1 or A-No.2 weld deposit?

Reply: Yes.

Section IX -- Interpretations No. 28

IX-89-71, IX-89-72

Interpretation: IX-89-71

Subject: Section IX, QW-380, Special Process

Date Issued: September 20, 1990

File: BC90-039

Question: May welding qualification (whether procedure or performance) done on a groove weld apply to material specifically intended to provide corrosion resistance (corrosion-resistant weld metal overlay) or of material specifically intended to provide wear resistance (hard surfacing)?

Reply: No.

Interpretation: IX-89-72

Subject: Section IX, QW-462.3(a)

Date Issued: September 20, 1990

File: BC90-042

Question (1): In the first sentence, of Note 2 of QW-462.3(a), does 4 in. nominal diameter mean, NPS 4 (4.5 in. O.D.)?

Reply (1): Yes.

Question (2): In the first sentence, of Note 2 of QW-462.3(a), does 2 in. to and including 4 in. mean, NPS 2 (2.375 in. O.D.), and NPS 4 (4.5 in. O.D.)?

Reply (2): Yes.

IX-89-73, IX-89-74

Section IX — Interpretations No. 28

Interpretation: IX-89-73

Subject: Section IX, QW-201

Date Issued: September 20, 1990

File: BC90-319

Question (1): A manufacturer hires a contractor who has a Quality Control system and holds an ASME Code Certificate. The manufacturer writes the WPS, the contractor accepts the WPS as fulfilling Code requirements and qualifies the procedure using the contractor's welder. May the manufacturer use the WPS for Code production welding?

Reply (1): No.

Question (2): May a contractor under employment to a manufacturer use the manufacturer's welding procedures to perform the Code welds?

Reply (2): No. However, some book sections take exception to this requirement in Section IX and provide alternate requirements.

Interpretation: IX-89-74

Subject: Section IX, QB-172

Date Issued: September 20, 1990

File: BC90-429

Question: Is a tension test, per QB-153 acceptance criteria, acceptable in lieu of a peel test for procedure and performance qualifications?

Reply: No.

Section IX — Interpretations No. 28

IX-89-75, IX-89-76

Interpretation: IX-89-75

Subject: Section IX; QW-403.5, QW-403.11, and QW-424

Date Issued: September 20, 1990

File: BC90-443

Question (1): A procedure qualification using the SMAW process in a V-groove joint has been qualified with acceptable bends, tensiles and charpy V-notch impact specimens, using P-No. 1 Gr. No. 2 material welded to a P-No. 3 Gr. No. 3 material. Does the procedure qualification support the welding of P-No. 1 Gr. No. 2 material together when notch toughness tests are required?

Reply (1): No.

Question (2): Does the procedure qualification support the welding of P-No. 1 Gr. No. 2 material to P-No. 3 Gr. No. 3 material?

Reply (2): Yes.

Question (3): Does the procedure qualification support the welding of P-No. 3 Gr. No. 3 material together?

Reply (3): No.

Interpretation: IX-89-76

Subject: Section II, Part C, Electrode Classification

Date Issued: September 20, 1990

File: BC90-466

Question: May a covered arc welding electrode with high titania potassium type of covering depositing approximately 0.5% molybdenum and meeting the proper tensile requirements be classified as E7013-G, SFA 5.5?

Reply: No.

IX-89-77, IX-89-78

Section IX — Interpretations No. 28

Interpretation: IX-89-77

Subject: Section IX, QW-214.3 and QW-216.2(d)

Date Issued: September 20, 1990

File: BC90-492

Question (1): Must the WPS/PQR chemical analysis specified in QW-214.3/QW-216.2(d) consist of all elements designated for the specific AWS grade with its modified ranges for specific elements?

Reply (1): No.

Question (2): May the WPS/PQR chemical analysis specified in QW-214.3/QW-216.2(d) consist of only the specified elements of interest and disregard the remaining elements specified for the wire in the AWS specification?

Reply (2): Yes.

Interpretation: IX-89-78

Subject: Section IX, QW-403.5

Date Issued: September 20, 1990

File: BC90-515

Question (1): A procedure qualification using the SMAW process in a V-groove joint has been qualified with acceptable bends, tensiles and charpy V-notch impact specimens, using P-No. 1 Gr. No. 2 material welded to a P-No. 3 Gr. No. 3 material. Does the procedure qualification support the welding of P-No. 1 Gr. No. 2 material together when notch toughness tests are required?

Reply (1): No.

Question (2): Does the procedure qualification support the welding of P-No. 1, Gr. No. 2 material to P-No. 3 material.

Reply (2): Yes.

Question (3): Does the procedure qualification support the welding of P-No. 3, Gr. No. 3 material together.

Reply (3): No.

Section IX — Interpretations No. 28

IX-89-79, IX-89-80, IX-89-81

Interpretation: IX-89-79

Subject: Section IX, QW-301 and QW-415

Date Issued: September 20, 1990

File: BC90-531

Question (1): Is pipe diameter a variable for procedure qualification?

Reply (1): No.

Question (2): Are tests for special metallurgical properties such as notch toughness and corrosion resistance required for performance qualification?

Reply (2): No.

Interpretation: IX-89-80

Subject: Section IX, QW-404.25 and QW-404.26

Date Issued: September 20, 1990

File: BC90-536

Question: Are QW-404.25 and QW-404.26 essential variables for PAW procedures where all of the filler metal is supplied in the powder form?

Reply: Yes.

Interpretation: IX-89-81

Subject: Section IX, QB-462.1(c)

Date Issued: September 20, 1990

File: BC90-537

Question: If a brazed lap joint pipe diameter is too large for testing in full section, per QB-462.1(c), may reduced section tensile test specimens be used?

Reply: Yes.

Section IX — Interpretations No. 29

IX-89-82, IX-89-83

Interpretation: IX-89-82

Subject: Section IX, QW-403.16 and QW-415

Date Issued: January 2, 1991

File: BC90-531

Question: Does a WPS qualified by a groove-weld test coupon in flat plate material qualify welding of all pipe diameters?

Reply: Yes.

Interpretation: IX-89-83

Subject: Section IX, QW 151.1, QW-451

Date Issued: January 2, 1991

File: BC90-532 (Questions 1 and 2)

Question (1): Are two single full plate thickness specimens necessary to satisfy the requirements of QW-451 when they are prepared in accordance with QW-151.1(a)?

Reply (1): Yes.

Question (2): Is the qualified thickness range of QW-451 based on the "as-welded" coupon thickness even though the coupon is subsequently machined to less thickness in order to obtain parallel surfaces?

Reply (2): Yes.

IX-89-84, IX-89-85

Section IX — Interpretations No. 29

Interpretation: IX-89-84

Subject: Section IX, QW-403.11

Date Issued: January 2, 1991

File: BC90-664

Question (1): A Welding Procedure Qualification is completed using a combination of the GTAW and SMAW processes with a P-No. 10F, Group No. 1 base material in the normalized and tempered condition. Does this Procedure Qualification support the welding of a P-No. 10F, Group No. 1 base material supplied in the quenched and tempered heat treatment condition when notch toughness is not required and all essential variables remain the same?

Reply (1): Yes.

Question (2): A Welding Procedure Qualification is completed using a combination of the GTAW and SMAW processes with a P-No. 10F, Group No. 1 base material in the normalized and tempered condition. Does this Procedure Qualification support the welding of a P-No. 10F, Group No. 1 base material supplied in the quenched and tempered heat treatment condition when notch toughness is required and all other essential variables remain the same?

Reply (2): Yes. However, other book sections of the Code may require qualification on a base material of the same heat treatment condition when notch toughness is required.

Interpretation: IX-89-85

Subject: Section IX, QW-100.1 and QW-200.1(b)

Date Issued: January 2, 1991

File: BC90-671

Question: Is it a requirement that the actual deposited weld metal thickness used on the qualification be shown on the WPS?

Reply: No.

Interpretation: IX-89-86

Subject: Section IX, QW-403.6

Date Issued: January 2, 1991

File: BC90-734

Question: Where notch toughness requirements are there for procedure qualification, is QW-403.6 applicable for weld metal thickness qualification?

Reply: No.

Interpretation: IX-89-87

Subject: Section IX, QW-202.2(c)

Date Issued: January 2, 1991

File: BC90-745

Question: May pressure retaining fillet welds be qualified by means other than a groove weld test coupon?

Reply: No.

IX-89-88, IX-89-89

Section IX -- Interpretations No. 29

Interpretation: IX-89-88

Subject: Section IX, QW-403.11, QW-422, and QW-424

Date Issued: January 2, 1991

File: BC90-768

Question (1): Are austenitic stainless steels (UNS N08925) seamless pipe conforming to ASTM B 677 and welded pipe conforming to ASTM B 673 and fabricated to the dimensional requirements of ASTM B 464, which are allowed to be used in construction of components complying with Section III, Division 1, of the ASME Code Class 2 and 3 per Code Case N-453-1 considered materials not identified in ASME Section IX QW-422, even though SB 677 and SB 673 are identified under a different UNS number (N08904)? Note: The Code Case does not state that this material shall be considered to be P-45.

Reply (1): Yes.

Question (2): Does a GTAW and/or SMAW welding procedure specification which is backed up by a procedure qualification record qualified in accordance with ASME Section IX for Code Case N-438 material, i.e., solution annealed Fe, 24.5 Ni, 21 Cr, 6.4 Mo, 0.2 N Alloy UNS N08367 otherwise conforming to SB 675 with minimum tensile strength of 104 ksi also qualify the manufacturer or contractor to weld Code Case N-453-1 austenitic stainless steel (UNS N08925) conforming to ASTM B 677 and ASTM B 673 if all other essential variables are the same?

Reply (2): No.

Interpretation: IX-89-89

Subject: Section IX, QW-310.2

Date Issued: January 2, 1991

File: BC90-769

Question: Is it permitted by QW-310.2 to use a machined groove in a plate or pipe, the depth of the groove being less than the thickness of the plate or pipe, to qualify a welder on a groove weld with backing?

Reply: Yes.

Section IX — Interpretations No. 29

IX-89-90, IX-89-91

Interpretation: IX-89-90

Subject: Section IX, QW-151.1 and QW-451

Date Issued: March 7, 1991

File: BC90-532 (Question 3)

Question (3): A PQR test plate is originally "T" thickness. It is reduced by machining to obtain parallel surfaces prior to preparing a turned specimen per QW-151.3(a). Is the maximum diameter specimen required by Note (a) of QW-462.1(d) based on the plate thickness after machining?

Reply (3): Yes.

Interpretation: IX-89-91

Subject: Section IX, QW-403.16 and QW-404.22

Date Issued: March 7, 1991

File: BC90-680

Question: Do the following tests support a welder's qualification to weld on all diameters 1 in. and over, on unlimited thickness, and on either open butt or with consumable inserts?

- (1) 2 in. Schedule 40 pipe with open butt joint
- (2) 2 in. Schedule 40 pipe with consumable insert
- (3) 6 in. Schedule XXS pipe with open butt joint

Reply: No.

IX-89-92

Section IX — Interpretations No. 29

Interpretation: IX-89-92

Subject: Section IX, QW-280 and QW-380 Special Process

Date Issued: March 7, 1991

File: BC90-681

Question (1): Is building up the thickness of the material on piping, pressure vessels, pumps or valve to restore thickness, slow, or prevent wall thinning with material of the same chemistry as the base metal considered to be "Corrosion Resistant Weld Metal Overlay" or "Hard Facing Weld Metal Overlay" per QW-280 and QW-380?

Reply (1): No.

Question (2): Is building up the thickness of the material on piping, pressure vessels, pumps or valve to restore thickness with corrosion resistant or hardfacing material which is of a chemistry different than the base metal considered to be "Corrosion Resistant Weld Metal Overlay" or "Hard Facing Weld Metal Overlay" per QW-280 and QW-380?

Reply (2): No.

Question (3): Is building up the thickness of the material on piping, pressure vessels, pumps or valve beyond that required to restore thickness to slow or prevent wall thinning considered to be "Corrosion Resistant Weld Metal Overlay" or "Hard Facing Weld Metal Overlay" per QW-280 and QW-380?

Reply (3): Yes.

Question (4): In the case of Questions (1) and (2) above should groove weld procedure qualification rules be followed?

Reply (4): Yes.

Section IX — Interpretations No. 29

IX-89-93, IX-89-94

Interpretation: IX-89-93

Subject: Section IX, QB-482 and QB-484

Date Issued: March 7, 1991

File: BC90-783

Question (1): The base metal section (QB-402) on Form QB-482 contains a line (8th) for tube/pipe diameter range. Is this required to be addressed on the brazing procedure specification since tube/pipe diameter is not considered to be an essential variable for any type of brazing?

Reply (1): No.

Question (2): Form QB-484, "Record of Brazer or Brazer Operator Qualification Tests," does not contain any diameter range qualified for pipe or tubing. Is the tube or pipe diameter an essential variable for brazer or brazing operator qualification?

Reply (2): No.

Interpretation: IX-89-94

Subject: Section IX, QW-452.3

Date Issued: March 7, 1991

File: BC90-785

Question: Are welders who qualify using GTAW to weld a groove in P-No. 8 tubing, 1/8 in. O.D., 0.030 in. wall in 6G position qualified to weld tubing 1/8 in. O.D. and larger where the wall thickness is 0.030 in. to 0.060 in.? The weld process and base material remain the same in both cases.

Reply: Yes.

IX-89-95, IX-89-96, IX-89-97

Section IX — Interpretations No. 29

Interpretation: IX-89-95

Subject: Section IX, QW-452.1

Date Issued: March 7, 1991

File: BC90-869

Question: Is a welder who has qualified using a deposit thickness of 0.90 in. qualified to weld the entire thickness of a 3 in. this material?

Reply: Yes.

Interpretation: IX-89-96

Subject: Section IX, QW-403.6

Date Issued: March 7, 1991

File: BC90-872

Question: In conducting a Welding Procedure Qualification for which notch toughness is required, is QW-403.6 applicable for weld metal thickness?

Reply: No. See QW-451.

Interpretation: IX-89-97

Subject: Section II, Part C, SFA 5.1

Date Issued: March 7, 1991

File: BC90-873

Question: Are mechanical property tests required for weld deposited with 2.4 and 3.2 mm electrodes classified in ASME SFA 5.1?

Reply: No.

Section IX — Interpretations No. 29

IX-89-98, IX-89-99

Interpretation: IX-89-98

Subject: Section IX, QW-303, QW-423, and QW-461.9

Date Issued: March 7, 1991

File: BC91-003

Question: Is a welder who has qualified with a NPS 2-1/2 Scheduled 40 pipe in the 6G position and also with a 3/4 in. plate in the 2G position qualified to weld in all positions and on all thickness of plate or pipe with diameters of NPS 2-1/2 or greater?

Reply: No.

Interpretation: IX-89-99

Subject: Section IX, QW-451.1

Date Issued: March 7, 1991

File: BC91-022

Question: Does QW-451.1 apply when welding a partial penetration groove joint of a tube to a header of dissimilar thicknesses?

Reply: Yes; see Note (1) for additional reference paragraphs.

IX-89-100, IX-89-101

Section IX — Interpretations No. 29

Interpretation: IX-89-100

Subject: Section IX, QW-202.2 and QW-451

Date Issued: January 2, 1991

File: BC90-663

Question: A procedure qualification in a test coupon of 1-1/2 in. thickness has been qualified to the requirements of QW-202.2(a) with the exception of notch toughness. A second Procedure Qualification with identical essential and supplementary essential variables, is tested for notch toughness only, in a test coupon of 3/16 in. thickness. Do the above two Procedure Qualifications support a WPS to weld a butt joint 3/16 in. to 8 in. in thickness where notch toughness is required?

Reply: Yes.

Interpretation: IX-89-101

Subject: Section IX, QW-383

Date Issued: June 17, 1991

File: BC91-085

Question (1): Does QW-383 apply to composite boiler tubing?

Reply (1): Yes.

Question (2): Is it mandatory to use composite tubing material to qualify welders to weld composite tubing or pipe under 24 in. diameter?

Reply (2): No.

Section IX — Interpretations No. 29

IX-89-102, IX-89-103, IX-89-104

Interpretation: IX-89-102

Subject: Section IX, QW-462

Date Issued: June 17, 1991

File: BC91-086

Question: Is QW-462.1(e) applicable for tension test of longitudinal welded pipe?

Reply: No.

Interpretation: IX-89-103

Subject: Section IX, QB-200.4

Date Issued: June 17, 1991

File: BC91-096

Question: Will a socket type lap joint brazing procedure qualification between two different base metals with the same nominal thickness qualify for brazing these same two base metals in any thickness combinations within the thickness limits of QB-451.3?

Reply: Yes.

Interpretation: IX-89-104

Subject: Section IX, QW-452.3

Date Issued: June 17, 1991

File: BC91-097

Question: Is there a maximum outside diameter qualification limit in Table QW-452.3?

Reply: No.

IX-89-105, IX-89-106

Section IX — Interpretations No. 29

Interpretation: IX-89-105

Subject: Section IX, QW-211 and QW-404

Date Issued: June 17, 1991

File: BC91-119

Question: Is a flux-cored consumable permitted as a filler material using the PAW process provided a test coupon is made establishing a PQR with the flux-cored consumable meeting the requirements of Section IX?

Reply: Yes.

Interpretation: IX-89-106

Subject: Section IX, QW-452.3

Date Issued: June 17, 1991

File: BC91-120

Question (1): Does Table QW-452.3 apply to Welding Procedure Qualification?

Reply (1): No.

Question (2): Is there a maximum outside diameter qualification limit in Table QW-452.3?

Reply (2): No.

Interpretation: IX-89-107

Subject: Section IX, QW-452

Date Issued: June 18, 1991

File: BC91-124

Question (1): A 50 mm thick test plate done for a weld procedure by FCAW is welded full thickness and receives X-ray examination and mechanical tests, including impact tests. Is the thickness test range qualified 3/16 in. to 8 in. as per QW-451.1?

Reply (1): Yes, except when notch toughness is a requirement the minimum thickness qualified is 5/8 in.

Question (2): A 50 mm thick test plate done for a weld procedure by FCAW is welded full thickness and receives X-ray examination and mechanical tests, including impact tests. Is the welder only qualified up to 50 mm thickness per QW-451.1?

Reply (2): No. The maximum thickness is unlimited.

Question (3): A welder qualification test plate done on 25 mm plate is welded full thickness by the FCAW process. Is the maximum thickness qualified per QW-452.1 unlimited if only X-ray is performed?

Reply (3): Yes.

Question (4): A welder qualification test plate done on 25 mm plate is welded full thickness by the FCAW process. Would the maximum thickness qualified be different if both two side bends and X-ray were performed?

Reply (4): No.

Question (5): A welder qualification test plate done on 25 mm plate is welded full thickness by the FCAW process. Is the maximum thickness qualified per QW-452.2 equal to 50 mm (2t)?

Reply (5): Yes.

IX-89-108

Section IX — Interpretations No. 29

Interpretation: IX-89-108

Subject: Section IX, QW-305

Date Issued: June 17, 1991

File: BC91-157

Question: If an operator of a fully automatic lathe welder has absolutely no control of the welding parameters or torch position and manipulation, must he still be qualified as a welding operator according to QW-305?

Reply: Yes.

Interpretation: IX-89-100R

Subject: Section IX, QW-202.2 and QW-451

Date Issued: January 2, 1991

File: BC90-663

Question: A procedure qualification in a test coupon of $1\frac{1}{2}$ in. thickness has been qualified to the requirements of QW-202.2(a) with the exception of notch toughness. A second Procedure Qualification with identical essential and supplementary essential variables, is tested for notch toughness only, in a test coupon of $\frac{3}{16}$ in. thickness. Do the above two Procedure Qualifications support a WPS to weld base metal $\frac{3}{16}$ in. to 8 in. in thickness and deposited weld metal up to 8 in. in thickness where notch toughness is required?

Reply: Yes.

Interpretation: IX-92-01

Subject: Section IX, QW-306 and QW-405.4, Combination of Welding Processes, and Change in Vertical Welding

Date Issued: October 7, 1991

File: BC90-501

Question (1): When a procedure is qualified in the vertical position using the GTAW machine welding process, is a change in the direction of travel from uphill to downhill (or vice versa) an essential variable?

Reply (1): Yes.

Question (2): Are the essential variables listed in QW-360 for welding operator performance qualifications using machine welding equipment applicable to welding operators who are being qualified to deposit hard-facing weld metal overlays using the gas tungsten arc-machine welding process?

Reply (2): Yes.

NOTE: The answers to your questions are based on the 1991 Addenda.

Errata

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IX-89-95

In Question, correct 3 in. this material to read 3 in. thick material